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(19)



(54) A SEAT HAVING SIDE PORTIONS

(71) We, REGIE NATIONALE DES USINES RENAULT, a French Body Corporate of 8/10 Avenue Emile Zola, Boulogne-Billancourt, Hauts de Seine, France, do hereby declare the invention, for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:-

The present invention relates to a seat having side portions.

A seat of which the backrest and the seat squab carry side portions which are adjustable against the force of a return spring is disclosed in British Patent No. 1,341,769. Each side portion carries to this end a sliding friction lining adapted to be clamped between two plates.

The side portions of the seat element are thus normally locked and reduce the driving comfort if applied to an automobile seat frame structure, notably in case of uncontrolled movements of the user's trunk or pelvis for example when driving along a sinuous road and when negotiating sharp turns.

According to the present invention there is provided a seat comprising a seat part having side portions disposed one on each lateral side of the seat part, the seat part comprising a main frame to which are connected respective auxiliary frames of the side portions, which are spring-loaded to pivot towards one another, the pivotal movement of each auxiliary frame being limited by control means comprising a traction member which is arranged to resist the spring-loading of the auxiliary frame when the auxiliary frame is in an end position, each traction member being adjustable to vary the end position by means of a screw mechanism.

In an embodiment of the present invention there is provision for adjusting the side portions which permits both a continuous adjustment of these portions to conform to the occupant's body configuration and size and a certain degree of yielding of these portions under the pressure of the passenger's body. The side portions may be provided on the backrest or

the seat squab, or both.

Other features and advantages of this invention will appear as the following description of a typical exemplary form of embodiment thereof proceeds with reference to the attached drawings, in which:

Figure 1 is a perspective view of a frame structure of a seat;

Figure 2 is a side elevational view showing on a larger scale a part of the frame structure; and

Figures 3, 4, 5 and 6 are sections taken along the lines III-III, IV-IV, V-V and VI-VI of Figure 2, respectively.

The seat illustrated in Figure 1 comprises a main frame 1 for the seat squab or cushion seat part and another main frame 2 for the backrest-forming seat part. The components of the frame 1 are not described in detail since they are no part of the present invention.

The frame 2 of the backrest is connected to the frame 1 of the squab by means of movable fittings 3 and 3' connected by a rod 4 responsive to a mechanism of a known type comprising a control knob 5 for adjusting the backrest inclination.

The frame 2 comprises a pair of side frame members 6, 6' supporting auxiliary frames 7 and 7' of side portions of the backrest. Each auxiliary frame such as frame 7, illustrated in Figure 2, is secured to its side member 6 by means of an upper strap 8 and a lower strap 9 comprising each a pair of arms 10 connected to the side member 6 by means of bolts 11. These straps 8 and 9 carry each a pivot pin 12 and 13, respectively, welded to the straps. These pivot pins 12, 13 engage arms 14, 14' of the auxiliary frame 7. A bent control finger 15 is welded to the lower arm 14' of the auxiliary frame and the shape of this finger 15 is such that it extends partly around the frame 2 of the backrest seat part, more particularly its side member 6. The auxiliary frame 7 is spring-loaded by a return spring consisting in this example of a torsion bar 16 having its end portions bent at right angles to the rest of the bar and secured to the auxiliary frame 7 by a

lug 17 and to the side member 6 by direct engagement therewith, respectively. The main portion of torsion bar 16 extends substantially parallel to the pivot axis of frame 7. The function of this torsion bar is to urge the auxiliary frame 7 towards the centre line of the seat and towards the other auxiliary frame 7', its endmost permissible position being limited by the engagement between the finger 15 and the side member 6 at point R.

A control mechanism for adjusting the angular position of the auxiliary frame comprises a traction member 18 consisting of a wire having one end anchored to the finger 15 and the opposite end attached to a nut 19 adjustable by means of a screw mechanism. The nuts 19 corresponding to the traction wires 18 of the two auxiliary frames engage two spaced screw-threaded sections of opposite hand formed on a common control rod 20 which is rotatably mounted on the movable fittings 3 and 3' and lies parallel to and near to, the pivot rod 4 of the backrest seat part. Furthermore, these nuts 19 are guided for translation along guide rods 21 forming inserts on the fittings 3 and 3'. Thus, it will be seen that each traction member 18 is adapted to exert a positive retaining action upon the corresponding auxiliary frame 7, to resist the biassing force exerted by the torsion bar 16.

Preferably, the control finger 15 is located as close as possible to the nut 19 so as to reduce the length of the traction member 18. The control screw-threaded bar 20 will thus enable the occupant of the seat to adjust at will the end position of the lateral, upholstered side portions while permitting the elastic yielding and return of these members when necessary, for instance during movements imposed by particular driving conditions to the occupant's body.

It would not constitute a departure from the basic principles of this invention to substitute pivoted links for the wires 18; in this case, the links would have one end pivoted to the nuts 19 and the other end provided with a slot for engagement with the control finger 15, whereby the side portions can be adjusted as in the preceding example while allowing a certain yielding thereof and an elastic return when necessary.

Alternatively, the screw mechanism, instead of being of the screw and nut type, could consist of a worm and worm wheel, which may be reversible, the tangent wheel being in this case rigid with a pulley for winding the corresponding traction wire.

Of course, the adjustable side portions could be provided on the seat rest squab, if desired.

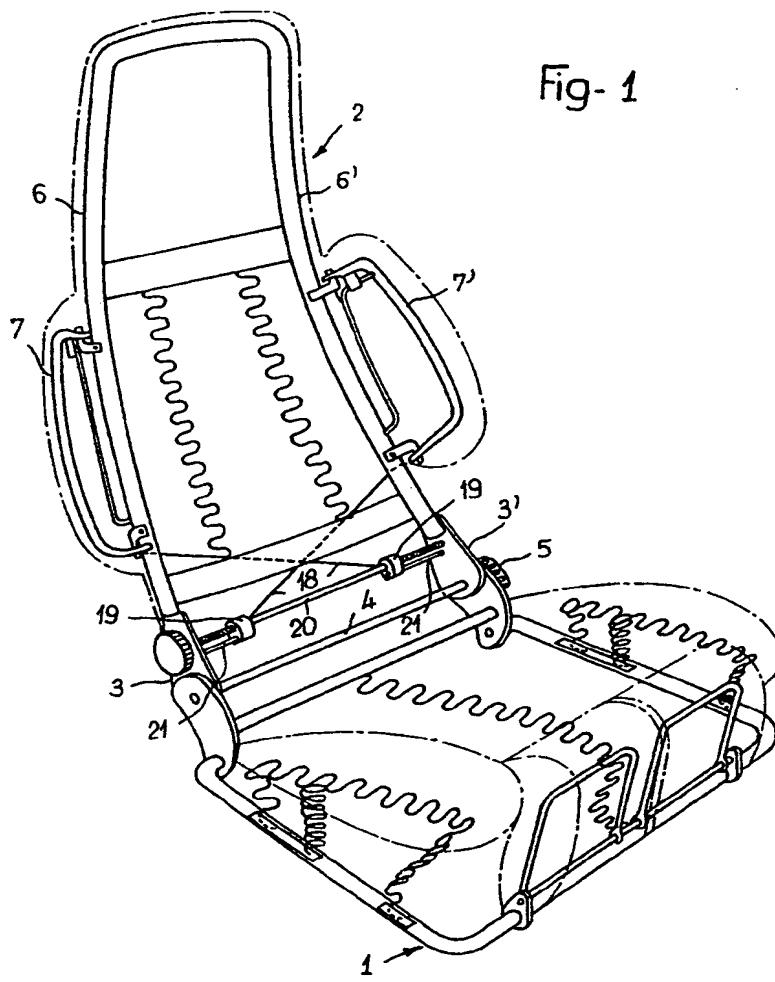
WHAT WE CLAIM IS:

1. A seat comprising a seat part having side portions disposed one on each lateral side of the seat part, the seat part comprising a main frame to which are connected respective auxiliary frames of the side portions, which are spring-loaded to pivot towards one another, the pivotal movement of each auxiliary frame being limited by control means comprising a traction member which is arranged to resist the spring-loading of the auxiliary frame, when the auxiliary frame is in an end position, each traction member being adjustable to vary the end position by means of a screw mechanism.
2. A seat according to claim 1, in which the screw mechanism comprises a rod mounted on the seat part and having two screw-threaded sections of opposite hand which are engaged by respective nuts which are guided for translation and are connected to the respective traction members.
3. A seat according to claim 1 or 2, in which each auxiliary frame carries a control finger extending partly around a frame member of the main frame, one end of the finger being connected to the traction member, the other end of the finger co-acting with the main frame to constitute a stop defining a limiting end position of the auxiliary frame.
4. A seat substantially as described herein with reference to the accompanying drawings.

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